

Agent
Zasporilla

and His
Magic Kangaroo

5th



By:
☺ Jessica Funk



— www.locksheldson.com/school.htm

Tangent Zasporilla and his magic kangaroo, Gary, loved math and geometry so much because it was a way that they could help the people of Mathachus. Mathachus needed a lot of help with there math problems. so one day Tangent Zasporilla and Gary got a call from Lyle the zoo keeper for the Cos Zoo. Lyle needed help with finding what shapes to use for the front side of the animals housing, and also how to find the area for it.



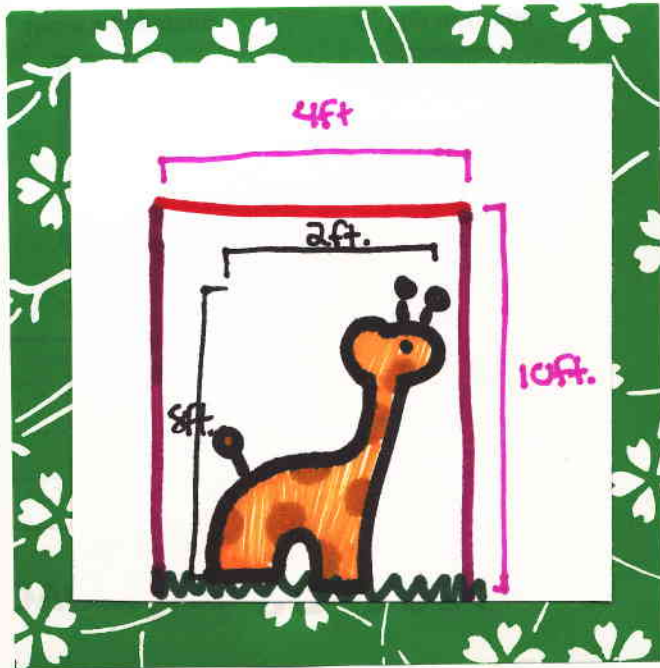
Once Tangent Zasporilla and Gary got there they were off to meet Lyle and begin their adventure. The first animal housing on their agenda was the Giraffe. They met Lyle there at the Savannah.



Once they arrived, Tangent Zasporilla asked "How tall and how wide is the largest Giraffe, Lyle?" "His name is Gilbert. Gilbert is 16ft. tall and 4ft. wide. I think that we should make his house a rectangle" Lyle said in reply. Gary then took out Tangent Zasporilla's magic math notebook, and he started to scribble something down on it.



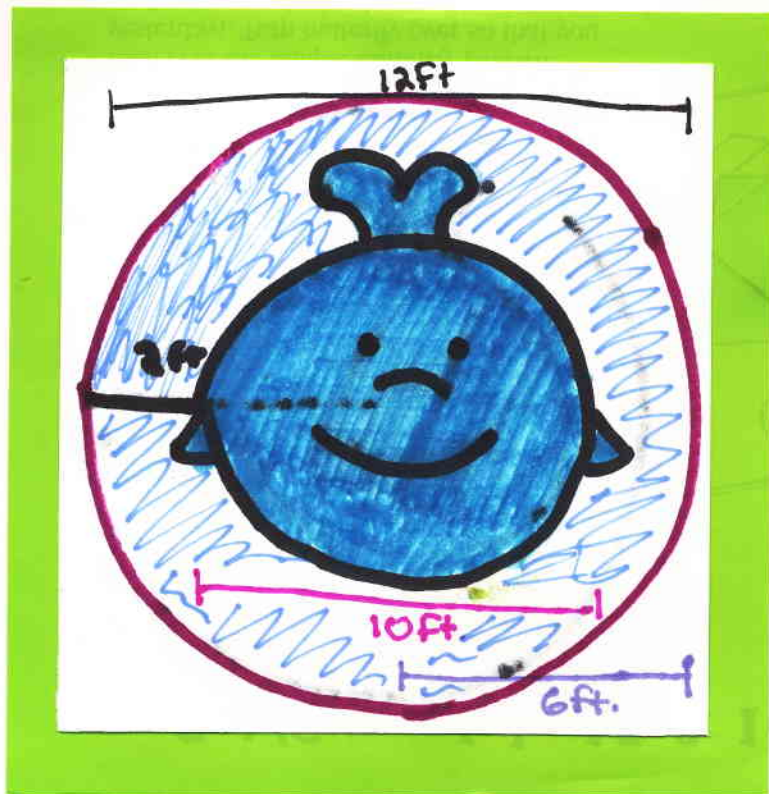
“Yes, and we should add one foot to each side so that Gilbert will be able to fit comfortably, that then makes the measurements 18ft. for the two congruent sides and for the top of the rectangle which is adjacent to each of the two sides will be 6ft, so that makes the area of this rectangle 108ft.²” said Tangent Zasporilla.



“Next we have to find housing for Louie. Louie is Gilbert’s son so we should make his house a rectangle too. He is just a baby after all, so he is only 8ft. tall and 2ft. wide” said Lyle. Well that makes them proportional” said Tangent Zasporilla in a matter-of-factly tone. “What does proportional mean?” asked Lyle. “Well it means when you put how tall Louie is over how tall Gilbert is you get $\frac{1}{2}$ and then when you put how wide Louie is over how wide Gilbert is you also get $\frac{1}{2}$, that is what proportional means” said Tangent Zasporilla. “Oh, I get it” said Lyle.

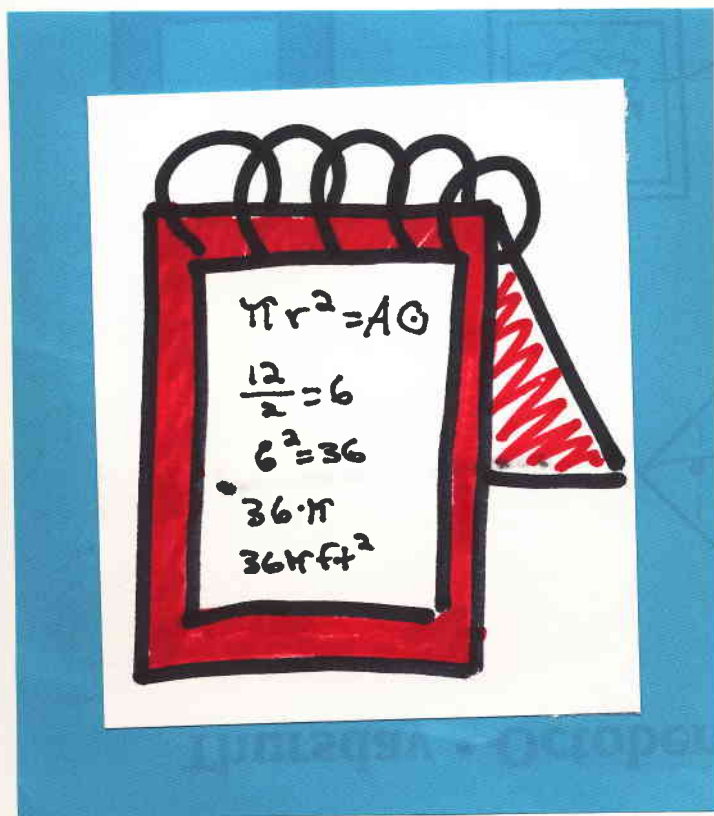


“We will add 2 feet to each side this time, so he has room to grow and the new measurements are 10ft. by 4ft” said Tangent Zasporilla after a couple of minuets of scribbling in his magic math note book he says “The area of the rectangle of Louies house is 40ft.²”

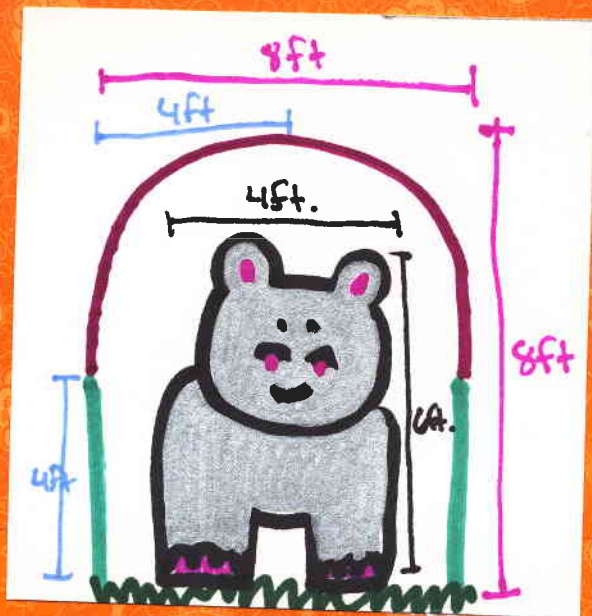


"Todd is our next animal he is a whale. I was thinking that we should make his house a circle" said Lyle. "Alas, a circle would

be perfect so what are his measurements?" asked Tangent Zasporilla. "He is 10ft. tall and 10ft. wide" said Lyle.

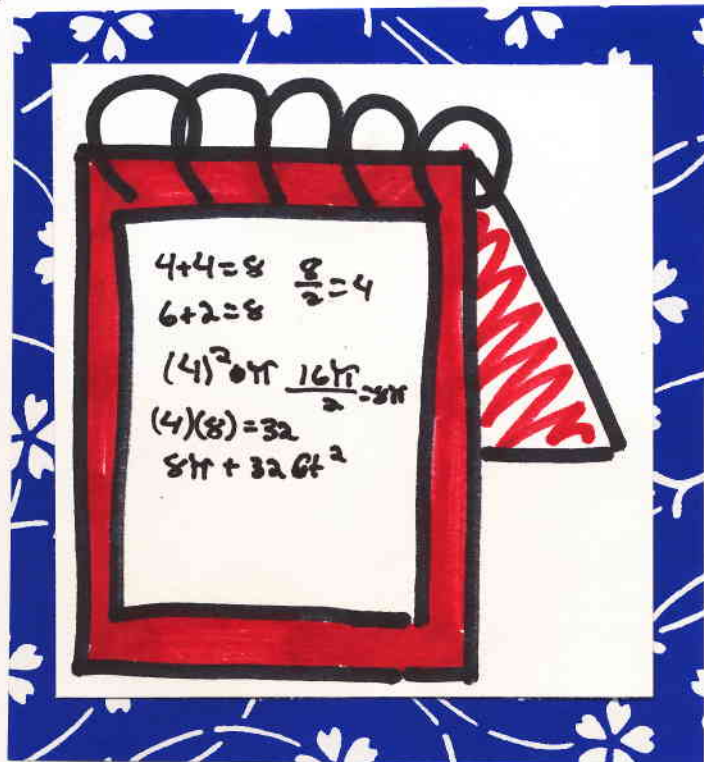


“Adding 2ft. to each side again would then make the diameter 12ft. which is the largest chord in a circle. Now what was that formula for finding the area of a circle, Gary?” said Tangent Zasporilla. “ πr^2 so half of 12 is 6 so the radius is 6ft.” said Gary. “Then the area of Todds house is $36\pi \text{ ft}^2$ ” said Tangent Zasporilla.



"Pokka is a hippo she is 6ft. tall and 4ft. wide. Pokka is nearly round but since she lives primarily on land I don't think it would be smart to make her house to be a complete circle because it would just roll over, and that would not be good" said Lyle.

"Right so maybe we should make it a rectangle with a semi-circle on top, but instead of adding 2ft. to each side I think that we should add 2ft to the height to make it 8ft. and 4ft. to the width to make it 8ft also, just to make things easier what do you think tan?" asked Gary. "That is a great idea mate. May I have my magic math notebook?" asked Tangent Zaspurilla. Once Gary handed him his magic math notebook he was again scribbling away at it.



"We have to find the area of the semi-circle first then the rectangle it sits on, to do that we have to find the radius which is 4ft. because if you divide 8ft. by 2, you get 4ft." said Tangent Zasporilla. "So we will find the area of the circle with the radius of 4 and then divide by 2, because that is what a semi-circle is and then find the area of a rectangle with the measurements 4ft. by 8ft., and then add them together right?" asked Gary. "Right and that makes the area of Pokka's house $32+8\pi$ ft.²" said Tangent Zasporilla.



“Well that was the last one thank you very much Tangent Zasporilla” said Lyle the zoo keeper. “No problem mate it was our pleasure” said Tangent Zasporilla with a smile. “Well good bye then” said Lyle the zookeeper. “Goodbye” said Tangent Zasporilla and Gary at the same time. Then they left the Cos Zoo wondering what great math adventure tomorrow will bring them.

QED



Resources

- <http://www.jacksheldon.com/school.htm>
- Geometry for enjoyment and challenge. [McDougal
Littell/Houghton Mifflin. McDougal, Littell & |Company.
1991. P.325, 439-505